

**WHAT IS CLAIMED IS:**

Sub  
C1

1. A method for providing Internet Protocol (IP) communications over at least one network with Quality of Service (QoS), comprising the steps of:

establishing at least one QoS policy in at least one network node;

initiating a communication session between at least one first end client device and at least one second end client device;

providing information to at least one server of the communication session, said information including at least one of resource usage, policy, authorization, authentication, and accounting information;

providing information to at least one router of the communication session, said information including at least one of resource usage, policy, authorization, authentication, and accounting information; and

establishing a communication session between said at least one first end client device and said at least one second end client device.

2. The method as recited in claim 1, wherein said step of establishing at least one QoS policy in at least one network node uses a Differentiated Services model.

Sub  
A1

3. The method as recited in claim 1, wherein the step of initiating a communication session further comprises the steps of:

- 1094340-1099
- a) sending an initiation message from said at least one first end client device to said at least one second end client device;
  - b) sending a message indicating receipt of said initiation message by the at least one second end client device;
  - c) sending a message indicating the at least one second end client device is responding to the initiation message; and
  - d) sending a message indicating a receipt of the message in (c) by the at least one first end client device and signaling the start of the communication session.

4. The method as recited in claim 3, wherein said steps (a)-(d) use a Session Initiation Protocol (SIP).

5. The method as recited in claim 3, wherein said network includes at least one server for receiving and forwarding initiation messages.

6. The method as recited in claim 1, wherein said at least one server is a policy server, the step of providing information to said at least one server of the communication session, further comprises the steps of:

- a) sending a message requesting said at least one of resource usage, policy, authorization, authentication, and accounting information to at least one policy

server; and

b) sending a message responding to the message in (a) with at least one of resource usage, policy, authorization, authentication, and accounting information;

wherein said at least one of resource usage, policy, authorization, authentication, and accounting information is according to the at least one QoS policy.

7. The method as recited in claim 6, wherein steps (a) and (b) are performed on a plurality of policy servers, one of the plurality of policy server being a local policy server for the first end client device, and one of the plurality of policy servers being a local policy server for the second end client device.

8. The method as recited in claim 6, wherein said steps (a) and (b) use a Common Open Policy Service (COPS).

9. The method as recited in claim 1, wherein the step of providing information to at least one router of the communication session, further comprises the steps of:

- a) sending a message requesting a local policy decision,
- b) sending a message installing policy to at least one router; and
- c) sending a message confirming installation.

10. The method as recited in claim 9, wherein the at least one router performs according to a Differentiated Services model.

11. The method as recited in claim 9, wherein steps (a)-(c) are performed on a plurality of routers, one of the plurality of routers being a local router for the first end client device, and one of the plurality of routers being a local router for the second end client device.

12. The method as recited in claim 9, wherein steps (a)-(c) use a Common Open Policy Service (COPS).

13. The method as recited in claim 7, wherein said network includes at least one clearinghouse server, said clearinghouse server providing resource usage, policy, authentication, authorization, and accounting information to each of said plurality of policy servers, said method further comprising the steps of:

a) sending a message requesting at least one of resource usage, policy, authentication, authorization, and accounting information to the at least one clearinghouse server; and

b) sending a message including at least one of resource usage, policy, authentication, authorization, and accounting information to the at least one policy server.

14. The method as recited in claim 13, wherein said steps (a) and (b) use a Open Settlement Policy (OSP).

15. The method as recited in claim 1, wherein the network uses an authorization token to indicate that a session is authorized.

16. A method for providing Internet Protocol (IP) communications over at least one network with Quality of Service (QoS), comprising the steps of:

establishing at least one QoS policy in at least one network node;

terminating a communication session between at least one first end client device and at least one second end client device;

providing information to at least one server of the communication session, said information including at least one of resource usage, policy, authorization, authentication, and accounting information; and

providing information to at least one router of the communication session, said information including at least one of resource usage, policy, authorization, authentication, and accounting information.

17. The method as recited in claim 16, wherein said step of establishing at least one QoS policy in at least one network node uses a Differentiated Services model.

18. The method as recited in claim 16, wherein the step of terminating a communication session further comprises the steps of:

- a) sending a termination message from the said at least first end client device to said at least one second end client device; and
- b) sending a message indicating receipt of said termination message by the at least one second end client device.

19. The method as recited in claim 18, wherein said steps (a)-(b) use a Session Initiation Protocol (SIP).

20. The method as recited in claim 16, wherein said network includes at least one additional server for receiving and forwarding termination messages.

21. The method as recited in claim 16, wherein said at least one server is a policy server, the step of providing information to said at least one server of the communication session, further comprises the steps of:

- a) sending a message requesting the de-installation of policy corresponding to terminating the session to at least one policy server; and
- b) sending a message responding to the message in (a) confirming the de-installation of said policy.

22. The method as recited in claim 21, wherein steps (a) and (b) are performed a plurality of policy servers, one of the plurality of policy servers being a local policy server for the first end client device, and one of the plurality of policy servers being a local policy server for the second end client device.

23. The method as recited in claim 21, wherein said steps (a) and (b) use a Common Open Policy Service (COPS).

24. The method as recited in claim 16, wherein the step of providing information to at least one router of the communication session, further comprises the steps of:

- a) receiving a message requesting de-installation of a local policy decision corresponding to the terminating session,
- b) sending a message directing a de-installation of said policy to at least one router; and
- c) receiving a message confirming de-installation.

25. The method as recited in claim 24, wherein the at least one router performs according to a Differentiated Services model.

26. The method as recited in claim 24, wherein steps (a)-(c) are performed on a plurality of routers, one of the plurality of routers being a local router for the first end client device, and one of the plurality of routers being a local router for the second end client device.

27. The method as recited in claim 24, wherein steps (a)-(c) use a Common Open Policy Service (COPS).

28. The method as recited in claim 24, wherein a policy server performs step (a), said method further comprising:

storing information concerning at least one of resource usage, policy, authorization, authentication, and accounting information concerning the terminating session.

29. The method as recited in claim 22, wherein said network includes at least one clearinghouse server, said clearinghouse server storing resource usage, policy, authentication, authorization, and accounting information for each of said plurality of policy servers, said method further comprising the steps of:

a) sending a message reporting at least one of resource usage, policy, authentication, authorization, and accounting information concerning terminating the session to the at least one clearinghouse server; and

b) sending a message confirming the receipt of the message in step



(a) to the at least one policy server.

30. The method as recited in claim 29, wherein said steps (a) and (b) use an Open Settlement Policy (OSP).

31. The method as recited in claim 16, wherein the network uses an authorization token to indicate that a session is authorized.